

We claim as our invention:

1. A method of filtering incoming calls comprising:  
recording local time information of a mobile subscriber unit;  
receiving a request for a call to the mobile subscriber unit from a calling unit  
and checking whether the local time information indicates that the mobile subscriber  
unit is within a time zone in an inconvenient time period; and  
sending an indication to the calling unit to inform the calling unit that the local  
time information of the mobile subscriber unit is in the time zone within the  
inconvenient time period when the checking determines that the local time  
information is within the inconvenient time period.

2. The method of claim 1, wherein the indication includes a request to the  
calling unit to perform one of confirming that the call is to be completed and  
indicating that the call is to be terminated.

3. The method of claim 2, further comprising:  
confirming, from the calling unit, that the call is to be completed; and  
completing setting up of the call.

4. The method of claim 2, further comprising:  
indicating, from the calling unit, that the call is to be terminated; and  
terminating setup of the call.

5. The method of claim 1, wherein:

the recording of the local time information comprises storing the local time information at a mobile switching center/home location register associated with the mobile subscriber unit,

the checking of the local time information is performed at the mobile switching center/home location register when the request for the call is received at the mobile switching center/home location register, and

the sending of the indication to the calling unit is performed by the mobile switching center/home location register after receiving the call request.

6. The method of claim 1, wherein when the calling unit receives the indication, a message is displayed on a display of the calling unit indicating that the mobile subscriber unit is in the time zone within the inconvenient time period.

7. The method of claim 1, wherein when the indication is received, a voice message is played for a user of the second mobile subscriber unit, the voice message indicating that the mobile subscriber unit is in the time zone within the inconvenient time period.

8. A method of filtering incoming calls comprising:

receiving local time information at a mobile subscriber unit;

updating, at the mobile subscriber unit, a local time of the mobile subscriber unit based on the received local time information;

initiating a request for a call to the mobile subscriber unit from a calling unit;

receiving, at the mobile subscriber unit, the request for the call from the calling unit;

checking, at the mobile subscriber unit, the local time information; and

sending an indication from the mobile subscriber unit to the calling unit indicating that the local time information of the mobile subscriber unit indicates that a local time is within an inconvenient time period when the local time information of the mobile subscriber unit indicates that the local time is within the inconvenient time period.

9. The method of claim 8, wherein the indication includes a request to the calling unit to perform one of confirming that the call is to be completed and indicating that the call is to be terminated.

10. The method of claim 9, further comprising:

confirming, from the calling unit, that the call is to be completed; and  
completing setting up of the call.

11. The method of claim 9, further comprising:

indicating, from the calling unit, that the call is to be terminated; and

terminating setup of the call.

12. The method of claim 8, wherein when the calling unit receives the indication, a message is displayed on a display of the calling unit indicating that the local time of the mobile subscriber unit is in the inconvenient time period.

13. The method of claim 8, wherein when the indication is received, a voice message is played for a user of the calling unit, the voice message indicating that the local time of the mobile subscriber unit is in the inconvenient time period.

14. The method of claim 12, wherein when the indication is received, a voice message is played for a user of the calling unit, the voice message indicating that the local time of the mobile subscriber unit is in the inconvenient time period.

15. The method of claim 1, further comprising allowing a user of the mobile subscriber unit to specify the inconvenient time period.

16. A mobile subscriber unit for use with a mobile communication network, the mobile subscriber unit comprising:

a destination local time receiver to receive local time information regarding a second mobile subscriber unit when the mobile subscriber unit attempts to establish a

call to the second mobile subscriber unit and a local time of the second mobile subscriber unit is within an inconvenient time period; and

a display unit to display a notification that the local time of the second mobile subscriber unit is within the inconvenient time period when the destination local time receiver receives the local time information.

17. The mobile subscriber unit of claim 16, wherein:

when the display unit displays the notification, the display unit further displays a request to a user of the mobile subscriber unit to perform one of confirm that the call is to be completed and terminate establishment of the call.

18. A mobile subscriber unit for use with a mobile communication network, the mobile subscriber unit comprising:

a destination local time receiver to receive local time information regarding a second mobile subscriber unit when the mobile subscriber unit attempts to establish a call to the second mobile subscriber unit and a local time of the second mobile subscriber unit is within an inconvenient time period; and

means for providing a notification that the local time of the second mobile subscriber unit is within the inconvenient time period when the destination local time receiver receives the local time information.

19. A mobile subscriber unit for use with a mobile communication network, the mobile subscriber unit comprising:

a local time updater to update local time information based on received time indications;

a local time checker to check the local time information when a request for a call originating from a calling unit is received; and

a time message generator to generate and send a message to the calling unit when the local time checker determines that a local time of the mobile subscriber unit is within an inconvenient time period based on the local time information.

20. The mobile subscriber unit of claim 19, wherein the message to be generated by the time message generator includes a request for the second mobile subscriber unit to perform one of confirming that the call is to be established and terminating establishment of the call.

21. The mobile subscriber unit of claim 20, further comprising:

a call establisher to establish the call when an indication is received from the calling unit confirming that the call is to be established, the indication being sent from the calling unit after the calling unit receives the message indicating that the local time of the mobile subscriber unit is in an inconvenient time period.

22. The mobile subscriber unit of claim 20, further comprising:

23. The mobile subscriber unit of claim 19, further comprising an inconvenient time setter to allow a user of the mobile subscriber unit to specify the inconvenient time period.

a second mobile subscriber unit including a destination local time receiver to receive the local time information from the first mobile switching center/home location register when the first mobile switching center/home location register determines that a call attempt from the second mobile subscriber unit to the first

mobile subscriber unit occurs at an inconvenient time according to the local time information.

25. The mobile communication system of claim 24, wherein:

the second mobile subscriber unit includes a display unit to display a notification that a local time of the first mobile subscriber unit is within the inconvenient time period when the destination local time receiver receives the local time information.

26. The mobile communication system of claim 25, wherein:

when the display unit displays the notification, the display unit further displays a request to a user of the second mobile subscriber unit to perform one of confirming that the call is to be completed and terminating establishment of the call.

27. The mobile communication system of claim 24, wherein:

the second mobile subscriber unit further includes means for providing a notification that a local time of the first mobile subscriber unit is within the inconvenient time period when the destination local time receiver receives the local time information.

28. A mobile communication system comprising:



a first mobile subscriber unit and a second mobile subscriber unit, the first mobile subscriber unit including:

a local time updater to update local time information maintained by the first mobile subscriber unit based on received time indications,

a local time checker to check the local time information when a request for a call originating from the second mobile subscriber unit is received, and

a time message generator to generate and send a message to the second mobile subscriber unit when the local time checker determines that a local time of the first mobile subscriber unit is within an inconvenient time period based on the local time information; and

the second mobile subscriber unit including:

a destination local time receiver to receive the local time information regarding the first mobile subscriber unit when the second mobile subscriber unit attempts to establish a call to the first mobile subscriber unit and the local time of the first mobile subscriber unit is within an inconvenient time period, and

a display unit to display a notification that the local time of the first mobile subscriber unit is within the inconvenient time period when the destination local time receiver receives the local time information.

29. The mobile communication system of claim 28, wherein the message to be generated by the time message generator causes the second mobile subscriber unit

to perform one of confirming that the call is to be established and terminating establishment of the call.

30. The mobile communication system of claim 29, wherein the first mobile subscriber unit further comprises:

a call establisher to establish the call when an indication is received from the second mobile subscriber unit confirming that the call is to be established, the indication being sent from the second mobile subscriber unit after receiving the message indicating that the local time of mobile subscriber unit is in the inconvenient time period.

31. The mobile communication system of claim 29, wherein the first mobile subscriber unit further comprises:

a call terminator to terminate the call when an indication is received from the second mobile subscriber unit indicating that the call is to be terminated, the indication being sent from the second mobile subscriber unit after receiving the message indicating that the local time of the first mobile subscriber unit is in the inconvenient time period.

32. The mobile communication system of claim 28, wherein when the display unit of the second mobile subscriber unit displays the notification, the display unit further displays a request to a user of the second mobile subscriber unit to perform

one of confirming that the call is to be completed and terminating establishment of the call.

33. A mobile switching center/home location register for a mobile communication system, the mobile switching center/home location register comprising:

a local time information receiver to receive local time information from a roaming mobile subscriber unit, the roaming mobile subscriber unit being associated with the mobile switching center/home location register;

a local time checker to check the local time information when a request for a call originating from a calling unit to the roaming mobile subscriber unit is received by the mobile switching center/home location register; and

a time message generator to generate and send a message to the calling unit when the local time checker determines that a local time of the roaming subscriber unit is within an inconvenient time period based on the local time information.

34. The mobile switching center/home location register of claim 33, wherein the time message generator generates a voice message to be played on a speaker of the calling unit.

35. The mobile switching center/home location register of claim 33, wherein the message to be generated by the time message generator includes a request for the

calling unit to perform one of confirm that the call is to be established and terminate establishment of the call.

36. The mobile switching center/home location register of claim 35, further comprising:

a call establisher to allow the call to be established when an indication is received from the calling subscriber unit confirming that the call is to be established, the indication being sent from the calling unit after receiving the message indicating that the local time of roaming mobile subscriber unit is within the inconvenient time period.

37. The mobile switching center/home location register of claim 35, further comprising:

a call terminator to terminate the call when an indication is received from the calling unit indicating that the call is to be terminated, the indication being sent from the calling unit after receiving the message indicating that the local time of roaming mobile subscriber unit is within the inconvenient time period.

38. A method of filtering incoming calls comprising:

recording local time information of a mobile subscriber unit;

receiving a request for a call to the mobile subscriber unit from a calling unit and checking whether the local time information indicates that the mobile subscriber unit is within a time zone in an inconvenient time period; and

preventing the call from being established when the local time information of the mobile subscriber unit is within the inconvenient time period.

39. The method of claim 38, wherein:

the recording of the local time information comprises storing the local time information at a mobile switching center/home location register associated with the first mobile subscriber unit, and

the checking of the local time information is performed at the mobile switching center/home location register when the request for the call is received at the mobile switching center/home location register.

RECEIVED 25 FEB 2003

ADD  
A7